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## ABSTRACT

The basic design of the National Longitudinal Study of the High School Class of 1972 (NLS) called for repeated surveys of a statistical sample of the Class of 1972. Each sample member was followed so as to build a historical database that would allow the investigation of the complex developmental paths that occur in the transition years from high school through adulthood. A series of tables summarize the survey design. The survey included a national sample of over 19,000 seniors from 1,000 public, private, and church-affiliated schools. Students completed a questionnaire and took a 69-minute test battery. Survey administrators and school counselors also completed questionnaires. In terms of quality and sample retention, the survey has been successful. The excellent results and breadth of data combine to produce a unique capability for social science research. A very general project having many functions, the NLS is a library of data on a nationally representative sample of the U.S. population. (Author/GK)

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The NLS Data Base: From Base Year 1972  
to Fourth Follow-Up 1980

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## THE NLS DATA BASE: FROM BASE YEAR 1972 TO FOURTH FOLLOW-UP 1980

NLS is a large-scale, long-term survey effort of the high school class of 1972. A sample of these students has been under study at RTI since 1973. In that time the project has continued to grow and develop, not only at RTI but nationally. Let me briefly review the project and bring you up to date on its current status.

The National Longitudinal Study is a continuing project monitored and primarily funded by the National Center for Education Statistics (NCES). This project represents a number of agencies and offices within the Department of Education (DOE) with interests in the long-range effects of educational policy. The focus of NLS is on the educational, vocational, and personal development of high school graduates, and the personal, family, social, institutional, and cultural factors that contribute directly or indirectly to that development. The basic purpose of NLS is to obtain a better understanding and better documentation, by sequential observation, of a current generation of young people, of the forces and experiences that effect their development in adult attainment, with the hope of improving (through refined educational policy, programs, and practices) the probability that they may assume a productive, satisfying and wholesome role in American society. The realization of that purpose is to be achieved by: (1) specially commissioned inquiries conducted by or through concerned Federal agencies and utilizing the NLS resource; and (2) the ready and general provision of the data base to the research community to allow the study of almost any aspect of the human development in the important years covering the transition from high school to adult career or life role.

The basic design of the study called for repeated surveys of a statistical sample of the class of 1972. Each sample member was to be followed in order to build a historical data base that would allow the investigation of the complex developmental paths that occur in the transition years from high school through adulthood. Table 1 summarizes the basic survey design, time points and survey returns. Let me review it with you.

Data collection for the study began in the high schools in the spring of 1972. A national probability sample of over 19,000 seniors from approximately 1,000 public, private, and church-affiliated high schools participated

Table 1

## Summary of Key Sampling and Survey Figures for NLS

|                       | Base-Year<br>Spring 72 | Follow-Ups           |                   |                  |                   |
|-----------------------|------------------------|----------------------|-------------------|------------------|-------------------|
|                       |                        | First<br>Oct. 73     | Second<br>Oct. 74 | Third<br>Oct. 76 | Fourth<br>Oct. 79 |
| Number of respondents | 16,683                 | 21,350 <sup>2/</sup> | 20,872            | 20,092           | 18,630            |
| Response rate         | 87.2% <sup>1/</sup>    | 94.2%                | 93.3%             | 92.1%            | 89.3%             |
| Retention rate        | --                     | 93.7%                | 94.6%             | 94.7%            | 90.0%             |

<sup>1/</sup> The sample design called for 1,200 schools with up to 18 students per school (approximately 21,600 students), but due to field problems only 1,070 schools and 19,136 students were able to participate in the base year.

<sup>2/</sup> In the first follow-up nonparticipating schools and students from the base year were recontacted and added to the survey.

NOTE.--The retention rate is calculated from one survey to the next.

in the base-year survey. Each student was asked to complete a student questionnaire and to take a 69-minute test battery. Survey administrators were asked to fill out a student record information form for each student as well as a school questionnaire to provide information about the school's programs, resources, and grading system. In addition, school counselors were asked to complete a special questionnaire designed to provide data about their training and experience. The base-year data collection effort was conducted by the Educational Testing Service of Princeton, New Jersey, and as can be seen in Table 1 resulted in a student response rate of approximately 87%.

In the summer of 1973, the Research Triangle Institute was awarded the contract to conduct the follow-up surveys. The first-follow survey began in October 1973 and ended in April 1974. This survey added to the base-year sample more than 4,400 students from additional schools that had been unable to participate earlier, bringing the first follow-up sample to more than 23,000 potential respondents. Some 21,350 young people completed a First Follow-up Questionnaire, for a response rate of 94%. Of the 16,683 seniors who completed a Base Year Student Questionnaire, 15,635 took part in the first follow-up survey--a sample retention rate of 93.7%.

The second follow-up survey began in October 1974 and was completed in April 1975. Some 20,872 young people completed a Second Follow-Up Questionnaire, thus giving a questionnaire response rate of 93%. Of the 21,350 persons who completed a First Follow-Up Questionnaire, 20,194 (94.6%) also participated in the second follow-up survey.

The third follow-up survey began in October 1976 and field data collection ended in early June 1977. Third Follow-Up Questionnaires were sent to 21,807 students, and through mail (73.8%) and interview (26.2%) data collection techniques a total of 20,092 completed questionnaires were returned for a response rate of 92%. This yielded a retention rate of second follow-up respondents of 94.7%.

The fourth follow-up survey began in October 1979 and was completed in June 1980, with forms sent to 20,862 sample members. A total of 18,630 sample members completed questionnaires for the fourth follow-up, with 77% (14,356) returned by mail, 18% (3,414) by field interview, and 5% (860) by telephone interview. The overall response rate was 89.3% of the initial mailout. A retention rate of approximately 90% of third follow-up respondents was achieved.

In addition to the self-administered fourth follow-up questionnaires, a subsample of participants was asked to complete a brief Supplemental Questionnaire designed to fill in critical information gaps resulting from incomplete data from previous follow-ups. Finally, a sample of fourth follow-up participants was retested on mathematics and vocabulary portions of the ability test initially administered during the base-year survey.

In terms of overall data quality and sample retention, the survey has been remarkably successful. We currently have a data base of over 23,000 records. When the fourth follow-up data file is completed and merged with the previous follow-up data, each record will contain over 3,000 items of information (variables) on each sample member, and the total data base will be well in excess of two hundred million characters. This is clearly a significant data resource. The truly excellent survey results and the breadth of data combine to produce a unique capability for social science research.

Contents of the base-year and follow-up instrumentation are summarized in Table 2. Collectively, the individual histories which make up the content of the instruments are calculated to provide quantitative data for policymakers, planners, and researchers about such issues as the following:

- the impacts of high school experiences, curriculum, peer-group aspirations, and guidance counselling on initial educational and occupational plans
- the demands for postsecondary education and training, including vocational/technical education
- patterns of postsecondary attendance and work, including transfer patterns, dropouts or stopout patterns
- the reasons why young adults change their plans and fail to accomplish earlier objectives
- the extent to which earlier plans and aspirations exist over time and are eventually fulfilled
- the factors influencing their life work and determining success and satisfaction in their work
- the extent to which educational experiences have prepared these young adults for their work
- financial considerations in setting low-aspiration goals and in failing high-aspiration goals

Table 2  
Content Areas in Each Survey

| Content Category      | Spring 1972<br>Base-Year Survey                                                                                                  | Fall-Winter 1973-74<br>1st Follow-Up Survey | Fall-Winter 1974-75<br>2nd Follow-Up Survey                    | Fall-Winter 1976-77<br>3rd Follow-up Survey                    |
|-----------------------|----------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|----------------------------------------------------------------|----------------------------------------------------------------|
| Biographical factors  | Sex, birthdate                                                                                                                   | Sex, birthdate                              | Sex, birthdate                                                 | Sex, birthdate                                                 |
| Ability               | SAT, ACT, and test scores (vocabulary, reading, math, letter groups, mosaic comparison, picture-number)                          |                                             |                                                                |                                                                |
| Socioeconomic status  | Parental income, education, occupation                                                                                           | Parental education, occupation              |                                                                |                                                                |
| Home background       | Number of persons dependent on parents, number of siblings in college, objects in home, language at home, parental expectation   | Parental encouragement                      | Birth order, number of siblings                                |                                                                |
| Community environment | Type of community, distance of home from postsecondary schools                                                                   | Type of community where individual lives    | Type of community where individual lives, mobility and reasons | Type of community where individual lives, mobility and reasons |
| Ethnicity             | Race, religion                                                                                                                   |                                             | Race                                                           |                                                                |
| Significant others    | Relative importance of family, peers, school personnel to secondary program, postsecondary plans, quality of counseling services |                                             |                                                                |                                                                |

Table 2  
Content Areas in Each Survey  
(continued)

| Content Category       | Spring 1972<br>Base-Year Survey                                                                                                                                                                  | Fall-Winter 1973-74<br>1st Follow-Up Survey                                         | Fall-Winter 1974-75<br>2nd Follow-Up Survey                                         | Fall-Winter 1976-77<br>3rd Follow-up Survey                                              |
|------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
| Activity status        | Activity plans for Fall of 1973                                                                                                                                                                  | Activity status in Oct. 1972, Oct. 1973                                             | Activity status in Oct. 1974                                                        | Activity status in Oct. 1975, Oct. 1976                                                  |
| Educational attainment | Educational plans (entry, financial support arrangement), factors interfered attainment, school choice                                                                                           | Educational status (degree, certificate received), factors interfered attainment    | Educational status (degree, certificate received), factors interfered attainment    | Educational status, graduate school application and entry, factors interfered attainment |
| School characteristics | Secondary school size, student-counselor ratio ability grouping or tracking, racial composition, college-going ratio, school SES, teacher qualifications, school facilities, counseling services | Postsecondary school control and type                                               | Postsecondary school control and type                                               | Postsecondary school control and type                                                    |
| School experience      | Time spent on homework, program of study, participation in remedial and special services programs, school quality, courses taken, instructional strategies                                       | Program type, major study area, full-time, financial aid programs, program duration | Program type, major study area, full-time, financial aid programs, program duration | Program type, major study area, full-time, financial aid programs, program duration      |
| School performance     | Grade average, extra-curricular activities                                                                                                                                                       | Grade average, dropout, transfer, satisfaction with schooling, total credits earned | Grade average, dropout, transfer, satisfaction with schooling, total credits earned | Grade average, dropout, transfer, satisfaction with schooling, total credits earned      |

Table 2  
Content Areas in Each Survey  
(continued)

| Content Category                  | Spring 1972<br>Base-Year Survey                                       | Fall-Winter 1973-74<br>1st Follow-Up Survey                                             | Fall-Winter 1974-75<br>2nd Follow-Up Survey                                                                              | Fall-Winter 1976-77<br>3rd Follow-up Survey                                                                                                     |
|-----------------------------------|-----------------------------------------------------------------------|-----------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| Work status                       | Type of work, hours of work, work plans for years after graduation    | Resources used for job hunting, work type, hours/week, reasons for not working          | Resources used for job hunting, work type, hours/week, reasons for not working                                           | Resources used for job hunting, work type, hours/week, reasons for not working                                                                  |
| Work performance and satisfaction | Factors in career selection                                           | Income, pay, and work conditions, satisfaction                                          | Income, pay, and work conditions, satisfaction, application of job training                                              | Income, pay, and work conditions, satisfaction, supervision, application of job training                                                        |
| Noncognitive traits               | Self-concept, locus of control                                        | Self-concept, locus of control                                                          | Self-concept, locus of control, maturity scale                                                                           | Self-concept, locus of control                                                                                                                  |
| Goal orientations                 | Work and educational aspirations, expectations, and plans; life goals | Work and educational aspirations, expectations, and plans; life goals                   | Work and educational aspirations, expectations, and plans; life goals                                                    | Work and educational aspiration, expectations, and plans; life goals                                                                            |
| Marriage and family               | Plans to be a full-time homemaker, number of dependents               | Marital status, number of dependents, income, number of children had and expect to have | Marital status, number of dependents, spouse's education and occupation, income, number of children, items owned at home | Marital status, number of dependents, spouse's education and occupation, income, number of children had and expect to have, items owned at home |
| Opinions                          | Factors interfered with education, ratings of high school             | Usefulness of specialized training in high school                                       | Participation in political activities, consumerism, quality of life                                                      | Political activities, sex-role orientation, sex and race biases, rating of high school                                                          |
| Military                          | Plans for military service                                            | Type, training, duration satisfaction, plans                                            | Type, training, duration, plans                                                                                          | Type, training, duration, plans                                                                                                                 |

\* This table has been extracted from: "The NLS Study of the High School Class of 1972: A Resource for Educational and Human Development Researchers" by J. A. Davis and J. R. Levinsohn. In New Directions for Testing and Measurement, 2, 1979, pp. 69-94.

- mobility of students.

We now turn to the question of what is being done to the data that have been collected and made available to the research community. The NLS data have, in the five years since the establishment of the first release file in September 1975, been deployed to a number of analytic purposes. A variety of reports are now in the public domain, and a number of studies are known to be in process.

A comprehensive search of NLS work completed and in progress through March 1977 has been published by RTI (Peng, Stafford, and Talbert, 1977). This search focused not only on standard literature search procedures, but also on telephone or in-person contact with all known recipients of the data, including Federal agencies as well as individuals (ranging from graduate students working on doctoral dissertations to state agencies or contract research programs). The report provides a summary of the findings, as well as an annotated bibliography, of 180 reports or summaries of work in progress at that time. This review is currently being updated by RTI as part of the fourth follow-up survey, with publication anticipated in the spring of 1981.

It is rather difficult to discuss, especially in such a short time, the findings and substantive reports that have resulted from the NLS. The study is unlike many short-term projects that are focused toward a specific goal or set of research questions. NLS is a very general project that has many functions. It is somewhat inappropriate to ask about the major conclusions of NLS. The NLS is a library of data on a nationally representative sample of the U.S. population. It grows and changes with each survey and as time passes, the questions to be investigated, the method of investigation, and the depth and complexity of the data change. Perhaps the best approach in this short time span is to simply inventory the kinds of research that have been done. The more interesting work for educational researchers, policymakers, and practitioners resides in the many special substantive studies by a variety of Federal agencies, contractors, and individuals. Table 3 indicates the general classification of such topical studies to date: Access to Postsecondary Education; Persistence and Performance in Postsecondary Education; Patterns of Financial Aid in Postsecondary Education; Patterns of Movement and Progress in Postsecondary Education; Patterns of

Table 3

Areas of Investigation in the NLS

- Access to Postsecondary Education
  - Persistence and Performance in Postsecondary Education
  - Patterns of Financial Aid in Postsecondary Education
  - Patterns of Movement and Progress in Postsecondary Education
  - Patterns of Vocational Study
  - Studies of Occupational Choice
  - Psychological Development
  - Consumer and Political Behavior
  - Secondary School Effects
  - Minority Studies
  - Methodology
- Sampling  
Instrumentation  
Measurement  
Quality Control  
Data Management

Vocational Study; Studies of Occupational Choice; Psychological Development; Consumer and Political Behavior; Secondary School Effects; and Minorities Studies.

This is, of course, only illustrative of the kinds of research completed and underway with the NLS data. Unfortunately, time is too brief to even highlight what has been done so far or what major conclusions have been drawn from studies utilizing NLS data. The NLS data have been and will continue to be used to answer questions relating to educational, vocational, and other social and behavioral developments. The NLS is the most current national longitudinal study spanning the school to college to work transition period; its coverage and subject content are broad, and an excellent sample retention rate (over 90%) has been maintained. Such a data set is extremely valuable. A considerable amount of analysis effort will be needed to fully explore the great potential of the NLS data. In particular, as additional follow-up data become available, analytic strategies to capture the longitudinal nature of the data and to explore data with a well-defined conceptual framework should be encouraged in almost every content area wherever data are available from the NLS. In this connection I want to mention a significant related study currently underway. This study, also commissioned by NCES, involves an expansion and replication of the NLS72 study and is now underway at the National Opinion Research Center. Labelled "High School and Beyond," this effort involves about 36,000 sophomores and 36,000 seniors from approximately 1,000 public and private schools in all fifty states and in the District of Columbia; instrumentation of the study will parallel closely that used for the NLS72 study, to permit the extrapolation of trends or to suggest impact of Federal programs not in effect in the fall of 1972 (the Basic Educational Opportunity Grant Program, for example). The inclusion of sophomores will augment the prior data potential by permitting tracing of high school dropouts, as well as permit better studies of high school effects. A first follow-up of this cohort is currently being planned.

Thus, in the future I think there is a significant opportunity to make better use of the longitudinal data over the several NLS72 surveys and to begin to consider the very exciting prospects of comparisons to the class of 1980.

I want to close with a word about the public release data file and related documentation. Toward the purpose of providing a general data resource, the base-year and follow-up contractors have been required to prepare data files for public use, with follow-up survey data successfully merged into the file, together with a detailed data file Users Manual. The most recent data file contains base-year through third follow-up data and was documented in the NLS Base Year, First, Second, and Third Follow-Up Data File Users Manual (Levinsohn, et al., 1978). The base-year through fourth follow-up data file and Users Manual are being completed at the present time and should be available in January or February of 1981.

In the construction of the data files, priority has been given to maintaining a faithful record of the original raw data, including respondent errors and inconsistencies. Editing, recoding, imputation, or other data transformation procedures have been minimized so as to limit tacit assumptions about the respondents or subjective interpretation of the data that would be required for these procedures. Where imputations are concerned, researchers have been left free to set data standards in accordance with their needs. The limited data transformation procedures used have been directed toward making the data available in a consistent and useful format which would preserve as accurately as possible the original responses of the sample members.

The NLS data file is simple in structure and can be used with most currently available "canned" statistical packages (such as SPSS, SAS, BMD). Most of these packages, however, have a limitation on the number of variables that may be defined in a given run, and this limit will be exceeded by the number of variables in the file. Users must be prepared either to build smaller working files or to change the control cards of the particular package when different subsets of the file are desired. The public release data tapes and the Users Manual are readily available through NCES.